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# Tennessee schools on-line with ConnecTEN project

BY GAEL B. STAHL

Editor

You can't see it, but the connecting of all 1,560 Tennessee schools to the Internet by the end of next month is a glorious achievement. The "infor-

mation superhighway" is not as tangible as asphalt and concrete highways, but putting our children on it puts Tennessee ahead of all the other states, and it will pay off.

In 1985, two or three dozen Tennessee counties had double-digit un-

employment, quite a few had more than a fifth to a third of their willing and able workers panting for paying jobs. The doldrums of economic sluggishness and despair were not pretty.

That's when Gov. Lamar Alexander and an enlightened legislature passed a hefty state gasoline tax for new roads. Gov. Ned McWherter spent his first four years in office, 1987-1991, devoting his considerable energy to getting every poor, remote, isolated county and city access to markets. Companies and industries poured in. Economic development followed. By the end of McWherter's second term, he was justly bragging how Tennessee had surpassed the Southeast and the nation in many areas of economic resurgence.

What Big Ned did for economic development Sundquist may be doing in even longer-range terms with the program called ConnecTEN. By Christmas, every child in the most remote school will be connected to information centers around the world. And the Department of Education will be able to train teachers for pennies on the dollar.

Just as highway construction de-

mands hard choices about the best concrete and asphalt and best routes to markets, so did ConnecTEN with regard to routers and ISDN or fiber-optic lines to get to research libraries and information centers.

The beauty is that small counties will have the same access as large counties, and poor systems will have the same access that the prize-winning school systems have.

The cost was divvied up by all Tennesseans. Telephone rate-payers contributed \$400 million to digitize the telephone system. The state Legislature appropriated \$100 million for 21st Century Classrooms (including a technology coordinator in each school system and a computer in every school library), another \$25 million created six regional hubs to network the state, and the Department of Education earmarked \$5.6 million to install and buy the hardware to connect the state information system's county access to every school site. Tennessee is said to be fourth in technology spending on education.

Between 15 and 75 computers can be simultaneously connected to the Internet at each site, depending on the size of the school.

Businesses are coming up with matching funds. About \$500,000 of the \$1 million goal has come in so far from the likes of the Tennessee Bankers Association, the Tennessee Business Roundtable, Eastman Kodak, and Martin Marietta — and other companies that are concerned about an enlightened, skilled work force.

Equipment has been provided by BellSouth (high-speed phone lines), Cabletron, Concepts in Communications, Cisco, Netscape (software), and CyberPatrol (software for blocking controversial Internet sites).

Al Ganier is coordinating this project, which is in some ways as complicated as TennCare, Families First, and the roads/bridges projects of the last decade. He is president of Technology Partner, which has a contract with the state to provide the design and implementation services for this project. He is also president of Connect Tennessee Students, a not-for-profit organization that is raising the private matching funds.

He says a major challenge is that this project is the first of its kind in the country, so there is no model to follow. Technology providers, touting their

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# ConnecTEN for schools is another Tennessee first

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products, go slack when he says he has to connect 1,560 public schools, 900,000 students, and 50,000 teachers to the state's information centers.

"They look at you like you've lost your mind," he says. That is why ISDN (Integrated Services Digital Network) lines, not fiber-optic, were connected to the routers. The expense of fiber-optic lines is so great that it would have been years before more than an elite few would have been connected. ISDN technology downloads picture and text from the World Wide Web four to 25 times faster than ordinary telephone lines.

Most schools have been connected via the standard plan, but another 450 schools by an alternate plan. Those are the schools that had already purchased equipment to connect to the Internet. About 50 standard-plan schools and 100 alternate-plan schools are yet to be connected next month.

Ganier says students and others can access information now at <<http://www.connect-tn.org>>. That Web site gives links to related sites on the network. He says the site is now being redesigned from its initial use for installation and testing to operational procedures.

BellSouth and the 28 independent-owned companies have unanimously dropped all normal barriers and worked together to make ConnecTEN happen at a very low rate, says Ganier. When talking to officials from other states, for example during a talk in California this month, he says they are amazed that the companies did this and that Tennessee is so close to connecting *all* the schools.

From the initial tests at 30 schools 18 months ago to the lines put in at 1,100 schools since, this has been an evolving process. Since the governor wanted the connection *now* and since the state could cover only 80 percent of the cost and some schools couldn't afford to match, the private sector was asked to contribute to the match at the rate of \$2 per student connecting to the Internet.

The original bid for the system came in at \$11 million, but tough project managing, a new design, and a second bidding process brought it down to \$5 million. Ganier is aware there are better technologies than ConnecTEN's. \*

"You can go to some interactive video-conference television Internet room at a cost of half a million dollars, but only 20 or 30 students can use it. We're trying a program that works for 900,000 students and 50,000 teachers in 1,560 schools, not just a small percentage of techies with the latest thing," says Ganier.

## **Local governments will connect**

Ganier says ConnecTEN has already been used and can be built on. For reasons of speed and expense, project managers used the Internet for training, installation, loading the software, and working with contractors. They have trained the 240 technology coordinators in the 139 school districts on the Internet using a 60-computer lab. This summer, they trained 2,000 teachers in National Guard armories using 38 computers on the drill floor, teaching them how to load the software to bring up the computers in their schools.

"Teaching a good idea to teachers at a motel conference would cost \$200 each or \$10 million for all 50,000 teachers. Getting certain ideas over to students might cost \$20 per student — \$18 million to reach all 900,000 students — in the traditional ways. It costs pennies on the dollar if we can figure out a way to deliver that same training on the Internet," Ganier says.

The Department of Education model can not only be used for continuing education of teachers through Web-based interactive training programs, but also by other departments and by local governments, says Ganier.

"We should be thinking how to get *Tennessee Town & City* articles and information up on the Internet so people can go back and review them and look things up. And if we train a lot of students to do that, your next generation of municipal employees is going to publish and research information on the Internet and will be

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Education/Internet

# Kids<sup>66</sup> open new doors as state spins Web

By Lady Hereford  
BANNER EDUCATION WRITER

A few clicks of the mouse, and a world of knowledge is at every student's fingertips.

Children in Tennessee's smaller rural counties will have the same access to the vast resources of the Internet as those in its larger urban and suburban districts.

That's the dream behind a massive project to connect schools through a state network and give all of Tennessee's 1,554 K-12 public schools access to the World Wide Web with text and graphics.

The ConnectTEN project, a bicentennial education initiative, kicks off today.

"What Tennessee is doing is unique because it's empowering every single student to have the same level of information," says Patty Chrystycz, a representative of New Hampshire-based Cabletron Systems, a company that is helping to bring ConnectTEN to life.

Students, parents and teachers will watch from schoolrooms across the state as Gov. Don Sundquist and state Education Commissioner Jane Walters unveil the project with a televised event that begins at 7:30 p.m. on Tennessee public television stations.

"A king, dictator or president didn't have as much information at his fingertips as you will have when you sit down at this keyboard," Sundquist told students at Jere Baxter Middle School today



BANNER PHOTO: JOHN RUSSELL

**Rachel Sisco, a fifth-grader at Carter-Lawrence Middle School, learns how to use the Internet with help from teacher Kerry Sinclair.**

The project is being hailed as the first of its kind in the nation. Already nearly 1,000 schools are connected, and the rest are expected to be completed by the end of this year.

"This is really an electronic window to the libraries, museums and databases of the world," says Al Ganier, president of Connect Tennessee Students, a nonprofit organization charged with raising \$1 million in private contributions for the project.

About \$500,000 has been raised so far. Among the businesses participating are the Tennessee Bankers Association, the Tennessee Business Roundtable, East-

man Kodak and Martin Marietta.

BellSouth has provided high-speed telephone lines, and companies such as Cabletron, Concepts in Communications and Cisco are providing everything from monitoring equipment to actual connection services.

Netscape has donated software, and Cyber Patrol is donating software to block access to controversial areas of the Internet.

The bulk of the project's \$5.5 million cost will come from the state's technology funding for schools. The rest comes from savings from last year's Education Department budget, Walters says.

"I felt I could not ask the business community for \$1 million unless I could save \$1 million from my budget below the line," Walters says.

"What we are basically hooking up is one computer in the library of each school," Walters says.

A high-speed switch is being installed in each school that allows dozens — possibly hundreds — of other computers in the building to connect to the Internet through the single computer in the library, Ganier says.

Each school system will be joined

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# Internet

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one state network with six regional hubs.

The whole thing will be overseen by a network operations center at the state Department of Education, and most repairs and assistance will be made remotely from there.

The state network won't be for schools only. State government will be able to use it to disseminate information statewide for programs such as Families First and others.

## Alternate plans

If an entire school system is connected by a network, however, getting onto the state network is more difficult. Systems with more advanced technology have been given the option of presenting the state with an alternate plan to get connected at a later date.

"We had school systems that had bitten the bullet and put money into technology," Walters says.

"We did not want to say to a

system that had already put things in place, now you'll have to tear up everything you have and do what we want to do."

About 400 systems out of the 1,554 will present alternate plans, Walters says.

One of those is Williamson County Schools, which has had Internet access in its 25 schools for more than a year.

"We've been there a little quicker than some," says Tim McNeese, director of information services for Williamson County schools' technology department.

But the schools will benefit from better connectivity to the Internet through ConnectTEN, McNeese says.

Other challenges have come from getting the state's larger systems up and running.

"This has really been an interesting undertaking because, for example, in a small district ... when you're got two or three schools in the district up, you've got the district up," Walters says.

"Then you've got a Memphis or a Metro, or a Knoxville or a Chattanooga."

In Metro, all the schools have ISDN lines, routers and equip-

ment, but the process is ongoing.

"We have some schools that already had access to the World Wide Web, but we are just adding that to the plan that we have," says Charlotte McNally, Metro schools coordinator of computer support.

Carter-Lawrence Middle School recently completed its ConnectTEN links and has access through the computer in the library. But soon each classroom will have access as well.

Carter-Lawrence is one of a handful of schools participating in an educational program that recently received a grant from the U.S. Department of Education that will convert the school into a technology magnet.

With six computers per classroom, "children will be using the Internet in some aspect almost daily," says Kerry Sinclair, a fifth-grade math and science teacher.

Other Middle Tennessee school systems as well have overcome obstacles in linking local networks to the state network.

Sumner County schools were finishing their connections on the eve of the kickoff. The system has

had to order equipment and make other adjustments in the process.

"We've had to work with and around what we have," says Ann Cobb, Sumner County schools technology coordinator.

Even schools in Grundy County, which has six elementary schools and one high school, had Internet connections before the project began.

"We're ready and on line," says Joe Gray, principal of North Elementary in Altamont.

Actually getting on line will be a simple process for teachers and students. Anyone can learn how to click on the icons and get on the Internet in five minutes, Ganier says.

Teachers in nearly all the schools have attended training sessions, and as more classes get access, more training will be required, Walters says.

"We're limiting this year mostly to library research so that the children can learn to use it as a tool. We've done some training with teachers, but we need to do more training and we need to work with teachers to help this be something that is seamless," she says.

**CERTIFICATE OF SERVICE**

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